

WHAT IS CLAIMED IS:

1. A method for labeling an article of fabric, said method comprising the steps of:

(a) providing a heat-transfer label, said heat-transfer label comprising:

5 (i) a transfer portion, said transfer portion comprising an ink design layer;

(ii) a support portion, said transfer portion being positioned over said support portion for transfer of the transfer portion from the support portion to an article of fabric under conditions of heat and pressure, said support portion
10 comprising

(A) a carrier, and

(B) a release coating positioned over said carrier, said release coating being made of a non-wax, non-silicone, release material; and

(b) transferring the transfer portion from the support portion to the article
15 of fabric under conditions of heat and pressure.

2. The method as claimed in claim 1 wherein said release coating is capable of being separated cleanly from said transfer portion with no visually discernible portion of said release coating being transferred to the article along with said transfer portion.

20 3. The method as claimed in claim 1 wherein said transferring step takes no longer than ten seconds to perform.

4. The method as claimed in claim 1 wherein said support portion is characterized in that the release force required to peel a unit width of pressure sensitive tape from said release coating at 180 degrees in accordance with Adhesion
25 Test Method PSTC-4B is in the range of about 0.5-5.0 lb/inch.

5. The method as claimed in claim 4 wherein said support portion is characterized in that the release force required to peel a unit width of pressure sensitive tape from said release coating at 180 degrees in accordance with Adhesion Test Method PSTC-4B is in the range of about 1.5-3.5 lb/inch.

6. The method as claimed in claim 5 wherein said support portion is characterized in that the release force required to peel a unit width of pressure sensitive tape from said release coating at 180 degrees in accordance with Adhesion Test Method PSTC-4B is in the range of about 2.1-2.4 lb/inch.

5 7. The method as claimed in claim 1 wherein said release coating has a total surface energy of about 25 to 35 mN/m, of which about 0.1 to 4 mN/m is polar surface energy.

8. The method as claimed in claim 1 wherein said release coating has a total surface energy of about 30 mN/m, of which about 1.3 mN/m is polar surface energy.

10 9. The method as claimed in claim 1 wherein said release coating is in direct contact with said transfer portion.

10. The method as claimed in claim 1 wherein said release coating has a thickness of about 0.01 to 10 microns.

15 11. The method as claimed in claim 10 wherein said release coating has a thickness of about 0.02 to 1 micron.

12. The method as claimed in claim 11 wherein said release coating has a thickness of about 0.1 micron.

20 13. The method as claimed in claim 1 wherein said release coating has a carbon content (by atomic %) of about 90 to 99.9% and an oxygen content (by atomic %) of about 0.1 to 10%, as measured by X-ray photoelectron spectroscopy.

14. The method as claimed in claim 13 wherein said release coating has a carbon content (by atomic %) of about 97% and an oxygen content (by atomic %) of about 3%, as measured by X-ray photoelectron spectroscopy.

15. The method as claimed in claim 1 wherein said release coating is olefinic.

25 16. The method as claimed in claim 1 wherein said carrier is a polymeric film having a glass transition temperature in the range of about 60°C to 250°C, a storage modulus in the range of 1.0×10^{10} dynes/cm² to 2.0×10^{10} dynes/cm² at ambient temperature, and a storage modulus in the range of 5.0×10^7 to 1.5×10^{10} dynes/cm² at 100°C.

17. The method as claimed in claim 1 wherein said carrier is selected from the group consisting of a polyester film and an oriented polypropylene film.

18. The method as claimed in claim 17 wherein said carrier is selected from the group consisting of a polyethylene terephthalate (PET) film and a poly(ethylene
5 2,6-naphthalene dicarboxylate) (PEN) film.

19. The method as claimed in claim 1 wherein said carrier has a thickness of about 0.5 to 7.0 mil.

20. The method as claimed in claim 19 wherein said carrier has a thickness of about 0.9 to 3.0 mil.

10 21. The method as claimed in claim 20 wherein said carrier has a thickness of about 0.9 to 2.0 mil.

22. The method as claimed in claim 1 wherein said release coating is made by (i) applying to the carrier in its amorphous or semi-oriented state a composition comprising (a) a functionalized α -olefin containing copolymer and (b) a crosslinking
15 agent; and (ii) reacting said composition with the carrier during uniaxial or biaxial stretching and heat setting.

23. The method as claimed in claim 22 wherein said functionalized α -olefin containing copolymer is an acid functionalized α -olefin containing copolymer.

24. The method as claimed in claim 22 wherein said functionalized α -olefin
20 containing copolymer is selected from the group consisting of ethylene/acrylic acid copolymers; ethylene/methacrylic acid copolymers; ethylene/vinylacetate/acrylic acid terpolymers; ethylene/methacrylamide copolymers; ethylene/glycidyl methacrylate copolymers; ethylene/dimethylaminoethyl methacrylate copolymers; ethylene/2-hydroxyethyl acrylate copolymers; and propylene/acrylic acid copolymers.

25 25. The method as claimed in claim 24 wherein said crosslinking agent is selected from the group consisting of amino formaldehyde resins, polyvalent metal salts, isocyanates, blocked isocyanates, epoxy resins and polyfunctional aziridines.

26. The method as claimed in claim 1 wherein said carrier and said release coating are optically clear.

27. The method as claimed in claim 1 wherein said article of fabric is a fabric garment.

28. The method as claimed in claim 27 wherein said fabric garment comprises a material selected from the group consisting of cotton, nylon, polyester, rayon, Spandex and combinations thereof.

29. The method as claimed in claim 1 wherein said heat-transfer label further comprises a wax layer positioned between said transfer portion and said support portion.

30. The method as claimed in claim 1 wherein said ink design layer is formed using a polyvinyl chloride-based ink.

31. The method as claimed in claim 1 wherein said transfer portion further comprises a heat-activatable adhesive layer, said ink design layer being positioned over said heat-activatable adhesive layer.

32. The method as claimed in claim 31 wherein said heat-transfer label further comprises a wax layer positioned between said transfer portion and said support portion.

33. The method as claimed in claim 32 further comprising, after step (a) and before step (b), the step of printing a marking onto said heat-activatable adhesive layer by at least one of thermal transfer printing, ink jet printing and laser printing.

34. The method as claimed in claim 31 wherein said ink design layer is printed directly onto said heat-activatable adhesive layer.

35. The method as claimed in claim 34 wherein said heat-activatable adhesive layer has a surface roughness of no more than about 15 microns.

36. The method as claimed in claim 35 wherein said heat-activatable adhesive layer has a surface roughness of no more than about 10 microns.

37. The method as claimed in claim 36 wherein said heat-activatable adhesive layer has a surface roughness of no more than about 5 microns.

38. The method as claimed in claim 34 wherein said ink design layer is printed by one of screen printing, gravure printing and flexographic printing.

39. The method as claimed in claim 34 wherein at least a portion of said ink design layer is printed by at least one of thermal transfer printing, ink jet printing and laser printing.

40. The method as claimed in claim 31 wherein said transfer portion further comprises a stretch layer for endowing said transfer portion with increased elasticity, said heat-activatable adhesive layer being positioned over said stretch layer, said stretch layer being positioned over said wax release layer.

41. The method as claimed in claim 40 further comprising, after step (a) and before step (b), the step of printing a marking onto said heat-activatable adhesive layer by at least one of thermal transfer printing, ink jet printing and laser printing.

42. The method as claimed in claim 40 wherein said stretch layer has a thickness of about 5 to 100 microns and comprises at least one of a polyester block copolymer, a polyurea polymer, and a polyurethane polymer.

43. The method as claimed in claim 1 wherein said transfer portion further comprises a heat-activatable adhesive layer, said heat-activatable adhesive layer being positioned over said ink design layer.

44. The method as claimed in claim 43 wherein said transfer portion further comprises a primer layer, said primer layer being positioned between said ink design layer and said heat-activatable adhesive layer.

45. The method as claimed in claim 44 wherein said heat-transfer label further comprises a wax layer, said wax layer being positioned directly over said release coating, said ink design layer being positioned directly over said wax layer.

46. The method as claimed in claim 45 further comprising, after step (a) and before step (b), the step of printing a marking onto said heat-activatable adhesive layer by at least one of thermal transfer printing, ink jet printing and laser printing.

47. The method as claimed in claim 43 wherein said transfer portion further comprises a protective lacquer layer, said ink design layer being positioned over said protective lacquer layer.

48. The method as claimed in claim 47 wherein said transfer portion further comprises a primer layer, said primer layer being positioned between said ink design layer and said heat-activatable adhesive layer.

5 49. The method as claimed in claim 48 further comprising, after step (a) and before step (b), the step of printing a marking onto said heat-activatable adhesive layer by at least one of thermal transfer printing, ink jet printing and laser printing.

50. A method for labeling an article of fabric, said method comprising the steps of:

10 (a) providing a heat-transfer label, said heat-transfer label comprising:
(i) a transfer portion, said transfer portion comprising an ink design layer;

15 (ii) a support portion, said transfer portion being positioned over said support portion for transfer of the transfer portion from the support portion to an article of fabric under conditions of heat and pressure, said support portion comprising

(A) a carrier, and
(B) a wax release layer, said wax release layer being deposited over said carrier, said transfer portion being positioned over said wax release layer; and

20 (b) transferring the transfer portion from the support portion to the article of fabric under conditions of heat and pressure.

51. The method as claimed in claim 50 wherein said carrier is selected from the group consisting of paper, polymer-coated paper, and a polymeric film.

52. The method as claimed in claim 51 wherein said carrier is a polymeric film.

25 53. The method as claimed in claim 52 wherein said polymeric film has a glass transition temperature in the range of about 60°C to 250°C, a storage modulus in the range of 1.0×10^{10} dynes/cm² to 2.0×10^{10} dynes/cm² at ambient temperature, and a storage modulus in the range of 5.0×10^7 to 1.5×10^{10} dynes/cm² at 100°C.

30 54. The method as claimed in claim 52 wherein said carrier is selected from the group consisting of a polyester film and an oriented polypropylene film.

55. The method as claimed in claim 54 wherein said carrier is selected from the group consisting of a polyethylene terephthalate (PET) film and a poly(ethylene 2,6-naphthalene dicarboxylate) (PEN) film.

5 56. The method as claimed in claim 54 wherein said carrier has a thickness of about 0.5 to 7.0 mil.

57. The method as claimed in claim 56 wherein said carrier has a thickness of about 0.9 to 3.0 mil.

58. The method as claimed in claim 57 wherein said carrier has a thickness of about 0.9 to 2.0 mil.

10 59. The method as claimed in claim 50 wherein said wax release layer has a thickness of about 0.1 to 20 microns and comprises a polyethylene-based wax.

60. The method as claimed in claim 50 wherein said ink design layer is formed using a polyvinyl chloride-based ink.

15 61. The method as claimed in claim 50 wherein said transfer portion further comprises a heat-activatable adhesive layer, said ink design layer being positioned over said heat-activatable adhesive layer.

62. The method as claimed in claim 61 wherein said ink design layer is printed directly onto said heat-activatable adhesive layer.

20 63. The method as claimed in claim 62 wherein said heat-activatable adhesive layer has a surface roughness of no more than about 15 microns.

64. The method as claimed in claim 62 wherein said heat-activatable adhesive layer has a surface roughness of no more than about 5 microns.

65. The method as claimed in claim 62 wherein said ink design layer is printed by one of screen printing, gravure printing and flexographic printing.

25 66. The method as claimed in claim 62 wherein at least a portion of said ink design layer is printed by at least one of thermal transfer printing, ink jet printing and laser printing.

67. The method as claimed in claim 61 wherein said transfer portion further comprises a stretch layer for endowing said transfer portion with increase elasticity,

said heat-activatable adhesive layer being positioned over said stretch layer, said stretch layer being positioned over said wax release layer.

68. The method as claimed in claim 67 further comprising, after step (a) and before step (b), the step of printing a marking onto said heat-activatable adhesive layer by at least one of thermal transfer printing, ink jet printing and laser printing.

69. The method as claimed in claim 68 wherein said stretch layer has a thickness of about 5 to 100 microns and comprises at least one of a polyester block copolymer, a polyurea polymer, and a polyurethane polymer.

70. The method as claimed in claim 69 wherein said transfer portion further comprises a heat-activatable adhesive layer, said heat-activatable adhesive layer being positioned over said ink design layer.

71. The method as claimed in claim 70 further comprising, after step (a) and before step (b), the step of printing a marking onto said heat-activatable adhesive layer by at least one of thermal transfer printing, ink jet printing and laser printing.

72. The method as claimed in claim 70 wherein said transfer portion further comprises a primer layer, said primer layer being positioned between said ink design layer and said heat-activatable adhesive layer.

73. The method as claimed in claim 72 further comprising, after step (a) and before step (b), the step of printing a marking onto said heat-activatable adhesive layer by at least one of thermal transfer printing, ink jet printing and laser printing.

74. A heat-transfer label well-suited for labeling fabric, said heat-transfer label comprising:

(a) a carrier;

(b) a release coating positioned over said carrier and in direct contact therewith, said release coating being made of a non-wax, non-silicone, release material; and

(c) an ink design layer, said ink design layer being positioned over said release coating and in direct contact therewith.

75. The heat-transfer label as claimed in claim 74 wherein said carrier is a polymeric film having a glass transition temperature in the range of about 60°C to

250°C, a storage modulus in the range of 1.0×10^{10} dynes/cm² to 2.0×10^{10} dynes/cm² at ambient temperature, and a storage modulus in the range of 5.0×10^7 to 1.5×10^{10} dynes/cm² at 100°C.

5 76. The heat-transfer label as claimed in claim 74 wherein said polymeric film is selected from the group consisting of a polyester film and an oriented polypropylene film.

77. The heat-transfer label as claimed in claim 76 wherein said polymeric film is selected from the group consisting of a polyethylene terephthalate (PET) film and a poly(ethylene 2,6-naphthalene dicarboxylate) (PEN) film.

10 78. The heat-transfer label as claimed in claim 75 wherein said carrier has a thickness of about 0.5 to 7.0 mil.

79. The heat-transfer label as claimed in claim 78 wherein said carrier has a thickness of about 0.9 to 3.0 mil.

15 80. The heat-transfer label as claimed in claim 79 wherein said carrier has a thickness of about 0.9 to 2.0 mil.

20 81. The heat-transfer label as claimed in claim 74 wherein said release coating is an olefinic coating having a carbon content (by atomic %) of about 90 to 99.9% and an oxygen content (by atomic %) of about 0.1 to 10%, as measured by X-ray photoelectron spectroscopy, a thickness of about 0.01 to 10 microns and a total surface energy of about 25 to 35 mN/m, of which about 0.1 to 4 mN/m is polar surface energy.

82. The heat-transfer label as claimed in claim 74 wherein said carrier and said release coating are optically clear.

25 83. The heat-transfer label as claimed in claim 74 wherein said ink design layer has a thickness of about 0.1 to 50 microns and is printed using a non-cross-linked polyvinyl chloride ink.

84. The heat-transfer label as claimed in claim 74 wherein at least a portion of said ink design layer is printed using a security ink.

30 85. The heat-transfer label as claimed in claim 84 wherein said security ink is selected from the group consisting of IR-activatable inks, UV-activatable inks,

visible light-activatable inks, heat-activatable inks, electrically-activatable inks, magnetically-activatable inks, chemically-activatable inks, humidity-activatable inks, pressure-activatable inks, dichroic inks, and time-controlled inks.

86. A heat-transfer label well-suited for labeling fabric, said heat-transfer label comprising:

(a) a carrier;

(b) a release coating positioned over said carrier and in direct contact therewith; and

(c) an ink design layer, said ink design layer being positioned over said release coating, said ink design layer comprising a polyvinyl chloride resin.

87. The heat-transfer label as claimed in claim 86 wherein said release coating is a wax release layer and wherein said ink design layer is in direct contact with said wax release layer.

88. The heat-transfer label as claimed in claim 86 wherein said release coating is made of a non-wax, non-silicone, release material and wherein said ink design layer is in direct contact with said wax release layer.

89. The heat-transfer label as claimed in claim 86 further comprising a wax release layer, said wax release layer being different in composition than said release coating, said ink design layer being positioned over and in direct contact with said wax release layer, said wax release layer being positioned over and in direct contact with said release coating.

90. The heat-transfer label as claimed in claim 86 wherein said ink design layer comprises a non-cross-linked polyvinyl chloride resin.

91. The heat-transfer label as claimed in claim 86 wherein said ink design layer comprises a cross-linked polyvinyl chloride resin.

92. The heat-transfer label as claimed in claim 86 further comprising a primer layer and a heat-activatable adhesive layer, said primer layer being positioned over said ink design layer, said heat-activatable adhesive layer being positioned over said primer layer.

93. The heat-transfer label as claimed in claim 92 wherein said ink design layer has a thickness of about 0.1 to 30 microns, said primer layer has a thickness of about 0.1 to about 50 microns, and said heat-activatable adhesive layer has a thickness of about 10 to 200 microns.

5 94. The heat-transfer label as claimed in claim 93 wherein said ink design layer comprises a cross-linked polyvinyl chloride resin and wherein said primer layer comprises at least one of a cross-linked polyurethane polymer resin, a cross-linked phenoxy polymer resin and a cross-linked polyvinyl chloride polymer resin.

10 95. The heat-transfer label as claimed in claim 94 wherein said primer layer comprises a cross-linked polyvinyl chloride polymer resin.

96. The heat-transfer label as claimed in claim 95 wherein said heat-activatable adhesive layer comprises one of a polyester resin, a polyamide resin and a polyvinyl chloride resin.

15 97. The heat-transfer label as claimed in claim 96 wherein said heat-activatable adhesive layer comprises a polyvinyl chloride resin.

98. The heat-transfer label as claimed in claim 96 wherein said heat-activatable adhesive layer has a surface roughness not exceeding 15 microns.

99. The heat-transfer label as claimed in claim 97 wherein said heat-activatable adhesive layer has a surface roughness not exceeding 5 microns.

20 100. The heat-transfer label as claimed in claim 92 further comprising a marking printed directly on top of said heat-activatable adhesive layer.

101. The heat-transfer label as claimed in claim 100 wherein said marking is printed by one of thermal transfer printing, ink jet printing and laser printing.

25 102. The heat-transfer label as claimed in claim 92 further comprising a protective lacquer layer, said protective lacquer layer being positioned between said release coating and said ink design layer.

103. The heat-transfer label as claimed in claim 102 wherein said protective lacquer layer has a thickness of about 0.1 mil and comprises a 3:1 mixture of a phenoxy resin and a polyurethane resin.

30 104. A heat-transfer label suitable for labeling fabric comprising:

(a) a support portion; and

(b) a transfer portion, said transfer portion being positioned over said support portion for transfer of the transfer portion from the support portion to an article of fabric under conditions of heat and pressure, said transfer portion comprising

5 (i) an ink design layer; and

(ii) a heat-activatable adhesive layer, said heat-activatable adhesive layer having a surface roughness not exceeding about 15 microns;

(iii) wherein said ink design layer and said heat-activatable adhesive layer are positioned relative to one another so that one of said ink design layer and said heat-activatable adhesive layer is positioned above the other.

10 105. The heat-transfer label as claimed in claim 104 wherein said heat-activatable adhesive layer has a surface roughness not exceeding about 10 microns.

106. The heat-transfer label as claimed in claim 105 wherein said heat-activatable adhesive layer has a surface roughness not exceeding about 5 microns.

15 107. The heat-transfer label as claimed in claim 104 wherein said heat-activatable adhesive layer comprises one of a polyester adhesive resin, a polyamide resin, and a polyvinyl chloride adhesive resin.

108. The heat-transfer label as claimed in claim 107 wherein said heat-activatable adhesive layer comprises a polyester adhesive resin.

20 109. The heat-transfer label as claimed in claim 107 wherein said heat-activatable adhesive layer comprises a polyvinyl chloride adhesive resin.

110. The heat-transfer label as claimed in claim 104 wherein said heat-activatable adhesive layer is positioned over said ink design layer.

25 111. The heat-transfer label as claimed in claim 110 wherein said transfer portion further comprises a marking printed directly on top of said heat-activatable adhesive layer.

112. The heat-transfer label as claimed in claim 111 wherein said marking has a thickness of less than about 15 microns.

30 113. The heat-transfer label as claimed in claim 111 wherein said marking is made by one of thermal transfer printing, ink jet printing and laser printing.

114. The heat-transfer label as claimed in claim 111 wherein at least a portion of at least one of said ink design layer, said heat-activatable adhesive layer and said marking is printed using a security ink.

5 115. The heat-transfer label as claimed in claim 114 wherein said security ink is selected from the group consisting of IR-activatable inks, UV-activatable inks, visible light-activatable inks, heat-activatable inks, electrically-activatable inks, magnetically-activatable inks, chemically-activatable inks, humidity-activatable inks, pressure-activatable inks, dichroic inks, and time-controlled inks.

10 116. The heat-transfer label as claimed in claim 110 wherein said transfer portion further comprises a primer layer, said primer layer being positioned between said ink design layer and said heat-activatable adhesive layer.

15 117. The heat-transfer label as claimed in claim 116 wherein said ink design layer comprises a cross-linked polyvinyl chloride resin and wherein said primer layer comprises at least one of a cross-linked polyurethane polymer resin, a cross-linked phenoxy polymer resin and a cross-linked polyvinyl chloride polymer resin.

118. The heat-transfer label as claimed in claim 117 wherein said primer layer comprises a cross-linked polyvinyl chloride polymer resin.

20 119. The heat-transfer label as claimed in claim 118 wherein said heat-activatable adhesive layer comprises a polyvinyl chloride adhesive resin.

120. The heat-transfer label as claimed in claim 119 wherein said support comprises a carrier and a release coating positioned directly on top of said carrier, said release coating being made of a non-wax, non-silicone, release material, said heat-transfer label further comprising a wax layer positioned between said release coating and said transfer portion.

25 121. The heat-transfer label as claimed in claim 120 wherein each of said ink design layer, said primer layer and said heat-activatable adhesive layer has a periphery and wherein the periphery of said primer layer exceeds the periphery of said ink design layer and wherein the periphery of said heat-activatable adhesive layer exceeds the periphery of said primer layer.

122. The heat-transfer label as claimed in claim 104 wherein said ink design layer is positioned over said heat-activatable adhesive layer, the periphery of said ink design layer not exceeding the periphery of said heat-activatable adhesive layer.

5 123. The heat-transfer label as claimed in claim 122 wherein at least a portion of said ink design layer is printed by one of thermal transfer printing, ink jet printing and laser printing.

124. The heat-transfer label as claimed in claim 122 wherein a first portion of said ink design layer is printed by at least one of screen printing, gravure printing and flexographic printing and a second portion of said ink design layer is printed by at least one of thermal transfer printing, ink jet printing and laser printing.

125. The heat-transfer label as claimed in claim 122 wherein at least a portion of at least one of said ink design layer and said heat-activatable adhesive layer is printed using a security ink.

126. The heat-transfer label as claimed in claim 125 wherein said security ink is selected from the group consisting of IR-activatable inks, UV-activatable inks, visible light-activatable inks, heat-activatable inks, electrically-activatable inks, magnetically-activatable inks, chemically-activatable inks, humidity-activatable inks, pressure-activatable inks, dichroic inks, and time-controlled inks.

20 127. The heat-transfer label as claimed in claim 122 wherein said transfer portion further comprises a stretch layer for endowing said transfer portion with increased elasticity, said adhesive layer being positioned over said stretch layer.

128. The heat-transfer label as claimed in claim 127 wherein said stretch layer has a thickness of about 5 to 100 microns and comprises at least one of a polyester block copolymer, a polyurea polymer, and a polyurethane polymer.

25 129. The heat-transfer label as claimed in claim 122 wherein said heat-activatable adhesive layer comprises a non-cross-linked polyvinyl chloride resin and wherein at least a portion of said ink design layer is printed using a polyvinyl chloride ink.

130. The heat-transfer label as claimed in claim 129 wherein said support comprises a carrier and a release coating positioned directly on top of said carrier, said release coating being made of a non-wax, non-silicone, release material.

5 131. The heat-transfer label as claimed in claim 130 wherein said heat-transfer label further comprises a wax layer positioned between said release coating and said transfer portion.

132. A method of making a heat-transfer label comprising the steps of:

- 10 (a) providing a releasable support;
(b) then, printing an ink design layer over said releasable support;
(c) then, printing a heat-activatable adhesive layer over said ink design layer; and
(d) then, printing a marking directly onto said heat-activatable adhesive layer.

15 133. The method as claimed in claim 132 further comprising, after step (b) and before step (c), the step of printing a primer layer directly onto said ink design layer and wherein said heat-activatable adhesive layer is printed directly onto said primer layer.

20 134. The method as claimed in claim 133 further comprising, after step (a) and before step (b), the step of printing a wax layer directly onto said releasable support and wherein said ink design layer is printed directly onto said releasable support.

25 135. The method as claimed in claim 132 wherein said step of printing said marking is performed using one of a thermal transfer printer, an ink jet printer and a laser printer.

136. The method as claimed in claim 132 wherein said heat-activatable adhesive layer has a surface roughness of less than about 15 microns.

137. The method as claimed in claim 136 wherein said marking includes digital codes encoding information, said digital codes being readable by a digital reader but inconspicuous to a naked eye.

138. The method as claimed in claim 136 wherein steps (a) through (c) are performed at a first location and step (d) is performed at a second location, said second location being remote from said first location.

139. A method of making a heat-transfer label comprising the steps of:

- 5 (a) providing a releasable support;
 (b) then, printing a heat-activatable adhesive layer over said releasable support; and
 (c) then, printing a first ink design layer directly onto said heat-activatable adhesive layer.

10 140. The method as claimed in claim 139 wherein said heat-activatable adhesive layer has a surface roughness not exceeding about 15 microns.

141. The method as claimed in claim 140 wherein said heat-activatable adhesive layer has a surface roughness not exceeding about 10 microns.

15 142. The method as claimed in claim 141 wherein said heat-activatable adhesive layer has a surface roughness not exceeding about 5 microns.

143. The method as claimed in claim 142 wherein at least a portion of said first ink design layer is printed using one of a thermal transfer printer, an ink jet printer and a laser printer.

20 144. The method as claimed in claim 143 wherein a first portion of said first ink design layer is printed by at least one of screen printing, gravure printing and flexographic printing and a second portion of said first ink design layer is printed by at least one of thermal transfer printing, ink jet printing and laser printing.

25 145. The method as claimed in claim 143 wherein steps (a) and (b) are performed at a first location and wherein the printing of the portion of said first ink design layer printed by one of thermal transfer printing, ink jet printing and laser printing is printed at a second location different from said first location.

30 146. The method as claimed in claim 139 further comprising, after step (a) and before step (b), the step of printing a wax layer directly onto said releasable support and wherein said heat-activatable adhesive layer is printed directly onto said releasable support.

147. The method as claimed in claim 139 wherein said heat-activatable adhesive layer is printed directly onto said releasable support.

148. The method as claimed in claim 139 further comprising, after step (c), the step of printing a second ink design layer, at least a portion of said second ink design layer overlapping with and contacting said first ink design layer to activate the label.

149. A heat-transfer label suitable for labeling fabric comprising:

(a) a support portion; and

(b) a transfer portion, said transfer portion being positioned over said support portion for transfer of the transfer portion from the support portion to an article of fabric under conditions of heat and pressure, said transfer portion comprising

(i) an ink design layer;

(ii) a heat-activatable adhesive layer; and

(iii) an RFID device.

150. The heat-transfer label as claimed in claim 149 wherein said RFID device is positioned between said ink design layer and said heat-activatable adhesive layer.

151. The heat-transfer label as claimed in claim 149 wherein said RFID device is an RFID IC having a built-in antenna.

152. The heat-transfer label as claimed in claim 149 wherein said RFID device is an RFID strap.

153. The heat-transfer label as claimed in claim 149 wherein said RFID device comprises an antenna and an RFID chip bonded to said antenna.

154. The heat-transfer label as claimed in claim 149 wherein said RFID device is positioned between said ink design layer and said heat-activatable adhesive layer and wherein said transfer portion further comprises a primer layer over said ink design layer, said RFID device being positioned on said primer layer and under said heat-activatable adhesive layer.

155. The heat-transfer label as claimed in claim 154 wherein said transfer portion further comprises a mask layer, said mask layer being interposed between said primer layer and said ink design layer.

156. The heat-transfer label as claimed in claim 153 wherein said transfer portion further comprises a pressure sensitive adhesive layer interposed between said ink design layer and said RFID device.